

# MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

VOL. XXVII.

MAY, 1899.

No. 5

## INTRODUCTION.

The MONTHLY WEATHER REVIEW for May, 1899, is based on reports from about 3,000 stations furnished by paid and voluntary observers, classified as follows: regular stations of the Weather Bureau, 154; West Indian service stations, 10; cotton region stations, 127; corn and wheat region stations, 133; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,220; Army post hospital reports, 27; United States Life-Saving Service, 14; Southern Pacific Railway Company, 96; Canadian Meteorological Service, 32; Mexican Telegraphic Service, 20; Mexican voluntary stations, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; the Director of the Central Meteorological and Magnetic Observ-

atory of Mexico; Señor A. M. Chaves, Director-General of Mexican Telegraphs; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Capt. J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

## FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

Gales of unseasonable severity did not occur on the American sea coasts and the Great Lakes during May, 1899.

Severe local storms occurred in the States of the upper Mississippi and lower Missouri valleys during the latter part of the month. The development of these storms was anticipated by the forecasts, and on the 30th, when well-marked tornadoes visited parts of Iowa and Missouri, the general forecast issued from Chicago in the morning gave warning for those States of severe and dangerous thunderstorms and squalls.

Early in the month freezing temperature was reached in the Northwestern States, and in Utah, Nevada, and northern Arizona. This condition was forecast by the Weather Bureau officials at Chicago and San Francisco. Frost warnings were not, however, issued, as vegetation was not sufficiently advanced. Warnings of frost were issued by the Portland, Oreg., office, on the 1st, 11th, 18th, and 19th, and were generally verified.

At the close of the month the San Francisco office issued rain warnings for California, Nevada, Utah, and Arizona, and although the forecasts were made during the dry season they were fully verified.

## LONG-RANGE FORECASTS.

While recognizing that forecasts based upon legitimate data can not be regularly made for a period greater than forty-eight hours in advance, the Chief of the Weather Bureau has encouraged the Forecast Officials to give to the public all information regarding unusual and severe types of weather permitted by their reports and experience.

Preceding special events, a forecast for three days is of interest and often of great value to communities and districts and upon occasions to the entire country, and during periods of intense heat or cold and in the presence of drought or continued rains information bearing upon the indicated duration of existing conditions is at times of incalculable value not only to the agricultural and commercial interests but also to the public at large.

The month of May, 1899, was not marked by unusual or severe types of weather. Two events, however, called for special long-range forecasts. The first of these was made for Chattanooga, Tenn., for the period covered by an open air festival. The Chattanooga News of May 10 commented upon this forecast as follows: